“FOREIGN FOREVER?” EXPLORING YOUNG CHILDREN’S ESSENTIALIST BELIEFS ABOUT FOREIGN-ACCENTED INDIVIDUALS

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Abstract

Immigrants are often discriminated against in the United States and are seen as lower in status compared to native-born individuals. A reason for this enduring discrimination could be due to the way they speak, as a foreign accent is a salient characteristic of an immigrant and is often the basis of discrimination (e.g., linguistic prejudice). As immigration continues to grow at rapid rates in the United States, researchers are keen to understand the underpinnings and the origins of these negative attitudes. Psychological essentialism, the cognitive bias to view members of a category as sharing an underlying essence that is stable and immutable, has been linked to negative out-group attitudes through the endorsement of status hierarchies. The present study examined whether children develop essentialist beliefs about their foreign-accented peers and how these beliefs related to their social preferences for foreign- or native-accented individuals. In addition, perceptions of the social status of accented individuals were also examined as a potential mediator of this relation. Results indicate that although 4- to 5-year-old children have low essentialist beliefs about accents with regard to stability (believing that accents can be changed across time and environment), 5-year-olds show a trend toward believing that accents are natural kinds and create distinct boundaries. In addition, although essentialism was not related to social preferences, participants' perceptions of the social status of foreign-accented adults were associated with their social preference, such that participants who rated native-accented adult speakers higher in status also showed greater preferences for native-accented speakers. The results from this study have implications for mechanisms that may lead to the development of negative attitudes toward foreign-accented individuals, and by extension enduring discrimination toward immigrants.

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Introduction

Immigration to the United States occurs at higher rates than any other country in the world (International Migrant Report, 2017) and is projected to continue growing at rapid rates. Despite these growing rates, immigrants are still discriminated against. One reason for persistent discrimination against immigrants could be due to the way they speak. Indeed, a foreign-accent is not only a salient characteristic of an immigrant, but also a common source of discrimination. Often referred to as *Linguistic prejudice*, this form of discrimination is often targeted at individuals who speak English with a non-standard accent or non-standard grammar (i.e., dialect: Macneil & Cran, 2007). Attitudes toward individuals with foreign accents are generally negative (Esses, Jackson, & Armstrong, 1998; Kessler & Freeman, 2005; Quillian, 1995; Simon & Lynch, 1999). Foreign-accented individuals, due to their lack of language fluency, are seen as less competent (Lindemann, 2002) and less intelligent (Bradac, 1990; Lindemann, 2003; Rubin, Healy, Gardiner, Zath, & Moore, 1997). In addition, the numerous accent reduction classes available in the U.S. perpetuate the negative implication of having a foreign accent (Lippi-Green, 1997).

Because of the increasing contact between people who speak natively and those who do not (Cheng, 1999), it is important to study the mechanisms by which negative attitudes toward foreign-accented speakers develop in order to prevent further discrimination. Since these attitudes are already present in adults, it might be hard to disentangle the means by which negative attitudes toward foreign-accented speakers are formed. By studying children who are in the process of developing these ideas, we might be able to better understand the mechanisms that support the emergence of these negative attitudes. The current study examined potential

mechanisms that support the development of negative attitudes toward foreign-accented individuals among 4- to 5-year-old children.

Accent vs. Language

Although language and accent will be used in tandem when explaining background related to the development of attitudes toward foreign accents, the current study focused on the developmental mechanisms of attitudes related to foreign accents rather than foreign language. Although speaking a foreign language and speaking with a foreign accent are both indicators that a person possibly comes from a foreign country, for the purposes of this study, I argue that accents are a more salient characteristic of an immigrant. While people similarly face discrimination in the U.S. based on speaking a foreign language or with a foreign accent (Gluszek & Dovidio, 2010; Lawton, 2013), it is more ambiguous as to why an individual is speaking a foreign language. It is unclear just by hearing an individual speaking a foreign language whether they emigrated from another country, or whether they were given an opportunity to learn a second language in school. An individual speaking a foreign language could be bilingual (e.g., fluent in that foreign language and English). In addition, the probability of speaking a second language is more common for bicultural individuals (including those who are not immigrants themselves). Especially in a multicultural environment like Hawai‘i, it is a common experience to meet individuals who speak multiple languages who were born and raised in the U.S. A foreign accent, on the other hand, is a clear indicator that English is not the speaker’s primary language (i.e., they learned English as a second language). Thus, although speaking a foreign language may be a predictor of immigrant status, a foreign accent is a clearer indicator of immigrant status and thus was the focus in this study.

In addition, it must be noted that "having an accent" is an imprecise phrase to describe a foreign-accented individual, as everyone speaks with an accent (Lippi-Green 1997; Matsuda, 1991). As this study focused on the perspective of standard American English speakers, foreign accents refer to foreign-accented American English.

The Development of Language and Accent Attitudes

Language has been shown to guide children's social categorization and preferences, even from infancy. Nine-month-old infants infer social relationships based on language, expecting two individuals who speak the same language to be socially affiliated when compared to two individuals who speak different languages (Liberman, Woodward, & Kinzler, 2016). In addition, 11-month-old infants expect two individuals who speak the same language, rather than speaking different languages, to share social preferences (e.g., have the same food preferences: Liberman, Woodward, Sullivan, & Kinzler, 2016).

Infants use language not only as an indicator of category membership, but also as a guide for their own social preferences. Five to six-month-old infants prefer to look at speakers of their native language compared to those who speak a foreign language (Kinzler, Dupoux, & Spelke, 2007) and 10-month-old infants prefer to reach for a toy offered by a speaker of their native language (Kinzler, Dupoux, & Spelke, 2012). In addition, it has been suggested that infants show preferential looking at native-language speakers more than foreign-language speakers because native-language speakers are seen as more optimal informants for cultural practices compared to foreign-language speakers (Begus, Gliga, & Southgate, 2016). As language is a salient social category at such young ages, it is unsurprising that it continues to guide social cognition as children age. 2.5-year-old children will accept an offer to play a game with a native-language speaker over a foreign-language speaker (Kinzler et al., 2012), and 5-year-old children prefer to

befriend a native-language speaker more often than a foreign-language speaker (Kinzler et al., 2007; Kinzler, Shutts, Dejesus, & Spelke, 2009). In sum, language is a rich social category that is not only used to infer individual's social affiliations, but also used as a guide for social preferences from infancy and through early childhood.

Aside from language, studies with infants and children show that their categorization and social preferences are also influenced by more subtle linguistic cues (i.e., accents). Although children can accurately discriminate between foreign and regional accents, foreign accents appear to be more distinctive (Floccia, Butler, Girard, & Goslin, 2009; Girard, Floccia, & Goslin, 2008). Three-month-old infants in Australia prefer to look at a more familiar accent over a non-familiar one (Kitamura, Panneton, & Best, 2013) and 5-month-old infants can discriminate between accents when compared to a familiar native accent (Nazzi, Jusczyk, & Johnson, 2000). American and French infants at around 5- to 6-months also prefer looking at native-accented speakers more than foreign-accented speakers (Kinzler et al., 2007).

Starting from 3 years of age, children use accent to guide their social preferences, preferring to learn from those of their accent in-group (Corriveau, Kinzler, & Harris, 2013). In addition, 5-year-old children show greater tendencies to befriend a native-accented speaker over a foreign-accented speaker (Kinzler et al., 2007; Kinzler et al., 2009). Moreover, 5-year-old monolingual and bilingual speakers do not differ in their accent preferences, with both monolingual and bilingual speakers preferring native-accented speakers to foreign-accented speakers (Dejesus, Hwang, Dautel, & Kinzler, 2017; Souza, Byer-Heinlein, & Poulin-Dubouis, 2013). Language and accent based social preferences even seem to override children's racial social preferences: 5-year-old children chose to befriend native-accented children of a different race more than foreign-accented children of the same race (Kinzler et al., 2009). Taken together,

the results from these studies show robust evidence that not only do young children use language and accent as a marker of social group membership, children at 5 years of age show strong preferences for native-language and native-accented speakers.

Although these results are informative, these previous studies have only looked at explicit social preferences for native-accented speakers starting at 5 years of age. Only a few previous studies have looked at younger children (e.g., 3- and 4-years-old). One study found that both 4- and 5-year-old children preferred the functional demonstration of a novel object from a native-accented speaker over foreign-accented speaker (Kinzler, Corriveau, & Harris 2011) and another found that children as young as 3 years prefer to learn from native-accented speakers over foreign-accented speakers (Corriveau et al., 2013). These studies have concentrated on more transient social preferences compared to children's preferences to befriend, a more permanent social affiliation. Indeed, children's selective learning was easily overridden by accuracy, such that children's selection of who they wanted to learn from was based more on the accuracy of what the speaker was saying, rather than their native or foreign accent (Corriveau et al., 2013). Thus, the current study incorporated the participation of 4-year-olds and used a friendship choice social preference measure to better understand the development of these attitudes. In addition, although there is strong evidence for children's social preferences with regard to accent attitudes, research has yet to examine the cognitive mechanisms that contribute to the development of these preferences. Ways these attitudes could develop is through psychological essentialism and perceptions of social status differences between native- and foreign-accented speakers.

The Relation Between Psychological Essentialism and Social Preferences

Psychological essentialism is a conceptual bias to view category members as possessing an inherent "essence" which endows them with certain stable characteristics, which causes

category members to be more similar to one another than to members of other kinds (Gelman, 2003; Medin & Ortony, 1989). Children hold essentialist beliefs at an early age, viewing perceptual similarities between members of the same category (e.g., animals) as caused by intrinsic properties that are immutable (Gelman, 2003, 2004). Children as young as 4-years-old form essentialist beliefs about social categories, such as race and gender (Hirschfeld, 1995; Rhodes & Gelman, 2009), and begin to express social preferences based on these categories (Aboud, 1988; Cameron, Alvarez, Ruble, & Fuligni, 2001; Maccoby & Jacklin, 1987).

Although essentialism can be a useful conceptual bias in some instances, in the social domain, essentialism has been hypothesized to lead to stereotyping and prejudice (Allport, 1954; Bigler & Liben, 2007). Because essentialism encourages over-generalizations about a category and emphasizes similarity of the members within a category, essentialism can cause individuals to judge others abilities based on their category membership (Andreychik & Gill, 2014; Prentice & Miller, 2007). For example, believing that all girls possess an innate quality that makes them frail and docile may cause someone to discriminate against women who want to and are capable of taking up labor-intensive jobs. Indeed, studies with adults provide evidence for the relation between race essentialist beliefs and racial prejudice. Both Black and White American adults with high race essentialist beliefs showed greater prejudice toward Blacks (Mandalaywala, Amodio, & Rhodes, 2017). In addition, the belief that race is biological has been linked with increased prejudice toward Black individuals (Jayaratne et al., 2006; Keller, 2005; Williams & Eberhardt, 2008).

Some studies have shown that race essentialist beliefs and stereotyping and prejudicial attitudes are also correlated in young children. Children with high essentialist beliefs about out-group members also showed application of stereotypes to out-group members (Pauker, Ambady,

& Apfelbaum, 2010). Similarly, children who believe in the stability of traits over time were also more likely to form stereotypes about novel categories (Levy & Dweck, 1999). With respect to prejudice, White 5- and 6-year-old children with high race essentialism also showed implicit prejudice toward stigmatized minority racial groups and explicit preferences for their own racial in-group (Mandalaywala & Rhodes, 2016). In addition, when children were asked to draw an in-group member and out-group member (i.e., Arab), 6-year-old Jewish children exposed to an essentialist story about ethnicity drew more social distance between the two characters and more positive affect on the in-group character than the out-group character (Diesendruck & Menahem, 2015). Another study found a more indirect link between essentialism and inter-group relations: Experimentally inducing essentialist beliefs about novel social categories in 4 – 6-year-old children lead to withholding resources from the novel out-group members but did not lead to significant out-group dislike (Rhodes, Leslie, Saunders, Dunham, & Cimpian, 2017). As previous studies have shown, there is evidence for the relation between essentialist beliefs and out-group prejudice, not only in adults, but also in children. Although the relation between essentialism and prejudice has been explored with social categories like race, gender, and even novel social categories, no studies have explored this relationship with respect to language.

Essentialism of Language

Language and its varieties (i.e., accents, dialects) is another social category that is salient to children at an early age and is used in particular to distinguish in-group from out-group members (Kinzler et al., 2011; Kinzler & Dautel, 2012; Kinzler & DeJesus, 2013; Kinzler et al., 2007). Children as young as 3 years old show knowledge of the relationship between accent and geographical background, believing that two speakers who share the same accent are from the same place (Weatherhead, White, & Friedman, 2016). In addition, 5 – 6-year-old children were

more likely to associate an English-speaking individual, regardless of race, as American, than a certain race (e.g., White) as American (DeJesus, Hwang, Dautel, & Kinzler, 2018). Thus, children from an early age use accents and language as a determinate of a person's social group membership.

Children essentialize language, as they do other social categories, and children's tendency to essentialize language can even override their inclination to essentialize race. When asked "which adult will the child grow up to be," 5 – 6-year-old children were more likely to say that a White, English-speaking child would grow up to be a Black, English-speaking adult than a White, French-speaking adult (Kinzler & Dautel, 2012). Thus, native English-speaking White children were more likely to pick the language match, even though this meant that the target child would need to change his or her race. These results suggest that children at 5 years of age may have already formed essentialist beliefs about language that seem to be stronger than their essentialist beliefs about race; however, less is known about whether children essentialize more subtle linguistic cues like accents and how these beliefs may affect their attitudes toward foreign-accented individuals. In addition, essentialist beliefs about language may differ depending on the component of essentialism that is measured.

There are five different components of essentialism that have been assessed with children (Rhodes & Mandalaywala, 2017): these involve beliefs that (1) categories reflect *naturally occurring* boundaries, in which there is a right and wrong way of categorizing, (2) category boundaries are *discrete* – properties of one category cannot be simultaneously held by another category, (3) categories are *homogenous* – members of a group share similar properties, even if dissimilarities (e.g., in appearance) exist, (4) category membership is *stable* across time and environmental changes, and (5) category membership *causes* the formation of stereotypical

category properties. Most of these categories have been explored with respect to gender, with children around 4 years of age believing that gender is naturally occurring (Kalish, 1998; Rhodes & Gelman, 2009), discrete (Taylor, Rhodes, & Gelman, 2009), homogenous (Gelman, Collman, & Maccoby, 1986; Waxman, 2012), and causal (Taylor, 1996; Taylor et al., 2009). Studies that have examined essentialist beliefs with respect to language have only looked at stability beliefs: children predict that a baby raised by adoptive parents who speak a different language will more likely grow up speaking the language of their birth parents (Hirschfield & Gelman, 1997), and that an English-speaking child will more likely grow up to be an adult who speaks English rather than an adult who speaks a different language, even if that means the child will have to change his or her race (Kinzler & Dautel, 2012). Though there is compelling evidence that children hold some essentialist beliefs about language, little is known about whether children essentialize more subtle linguistic cues like accent and whether this differs depending on the component of interest.

Stability of accents. One component of essentialism that children may have low essentialist beliefs about accents is stability beliefs; in other words, viewing categories as stable across transformations. Despite studies showing how hard it is for foreign speakers to change their accent (Scovel, 2000), Adults show a strong belief that accents are easily altered (Lippi-Green, 2012). Although previous studies have indicated that children have essentialist beliefs about *language* with respect to the stability of *language* across time, I have reason to believe children like adults may be exposed to day-to-day examples in which they are socialized to think of *accents* as a malleable category. Examples of voice and accent manipulation are abundant in media and children's daily lives. During story time, parents and teachers may portray different accents and voices when they read, and media often portrays actors imitating various accents. Thus, due to early exposure to examples in which accents can be manipulated, children may

come to have low essentialist beliefs about accent stability in contrast to their high essentialist beliefs about language stability.

Accents as a natural kind. A component of essentialism that may produce high essentialist beliefs is the belief that accents reflect a naturally occurring category. In other words, children may development essentialist beliefs that accents reflect distinctions found in nature. Indeed, the language ideology of nativeness theorizes that individuals divide the world into dichotomous, incongruous, and unchallenged distinctions of in-group and out-group based on language variations (Giles, 2012; Giles, Reid, & Harwood, 2010; Harwood & Giles 2005). Previous research also indicate that Americans draw clear category boundaries based on accent, labeling standard American English speakers as Americans and foreign-accented English speakers as foreign (Schmidt, 2002).

In addition, due to the long period of human exposure to language variation, it is hypothesized that humans have evolved cognitive mechanisms that automatically categorize individuals based on their accent. Studies investigating the role of coalitional categorization (i.e., how our tendencies of picking up on arbitrary features that correlate with social affiliation and cooperation influences our implicit use of these features to categorize others; Cosmides, Tooby, & Kurzban, 2003; Kurzban, Tooby, & Cosmides, 2001; Tooby & Cosmides, 2010) on accents suggest that our minds have evolved cognitive mechanisms to categorize others according to their accents, similar to sex and age (Pietraszewski & Schwartz, 2014a; 2014b). Thus, based on the ideology of nativeness and human evolved cognitive mechanisms specific to detecting accents, children may come to view foreign and native accents as distinct and separate kinds. Because I expected different results depending upon the component of essentialism assessed, I assessed essentialist beliefs across two, rather than one, task.

Perceptions of Social Status

One way essentialist beliefs may lead to higher social preferences for in-group members is through the perceptions of social status differences. Essentialism may lead to prejudice because essentialist beliefs include thinking that the social world reflects an objective structure, and thus that members of low status categories are inherently deserving of their lower status. Thus, essentialism may serve as a hierarchy-maintaining device that then influences how individuals perceive those of lower status. This relationship has been demonstrated in adults with respect to race. When experimentally manipulating essentialism, researchers found that increasing essentialist beliefs led to greater endorsement of socially constructed hierarchies for both Black and White participants, which explained the relation between higher race essentialist beliefs and greater negative attitudes toward Blacks (Mandalaywala, Amodio, & Rhodes, 2017).

Although the relationship between essentialism, endorsement of social status differences, and prejudice attitudes has not yet been demonstrated in young children, children as young as 5 years of age are sensitive to cues of social group status with respect to race (Nesdale & Flesser, 2001). Children are more likely to associate high value belongings with White, as compared to Multiracial or Black, individuals (Olson, Kinzler, Shutts, & Weisman, 2012). Status also impacts intergroup preferences; children who are members of high-status groups tend to show greater in-group preference than children who belong to low status groups (Bigler, Brown, & Markell, 2001; Nesdale & Flesser, 2001). While research demonstrates that children are aware of racial differences in status early in childhood, no studies have looked into whether children assign speakers of various accents to higher or lower status. In addition, no previous studies have examined whether children's understanding of social status is related to the emergence of prejudicial attitudes, especially in relation to more basic cognitive processes such as essentialist

beliefs. As children more readily use language than race to social categorize and guide their preferences, it is important to address these developmental mechanisms with respect of accent attitudes.

The Present Study

The purpose of the present study was to examine whether essentialist beliefs about individuals who speak foreign-accented American English in the United States relate to differences in social preferences for these individuals. Because speaking foreign-accented English is a salient characteristic of immigrants, native-accented children may assume strict boundaries that define members of this out-group social category; however, given the flexible nature of accents, children may also believe accents to be malleable. Thus, it is highly likely that native-accented children may generate different levels of essentialist beliefs depending on the essentialist component assessed: children may develop beliefs that accents are naturally occurring, but malleable across time and environment.

The present study aimed to assess three hypotheses. First, I predicted that 4- and 5-year-old children will develop essentialist beliefs differently depending on the component tested. Although they will believe that their foreign accented peers can change their accent across time and in differing environments, they will also believe that accent categories are natural kinds and have distinct boundaries. Second, I predicted that children with higher natural kinds essentialist beliefs will have stronger social preferences in favor of native-accented speaking children. I did not have a strong prediction for whether stability essentialist beliefs would lead to higher or lower preferences of native-accented speakers due to the potentially unique beliefs about the flexibility of accents compared to other social categories. Finally, I predicted that perceptions of social status will mediate the relationship between higher natural kinds essentialist beliefs and

higher native-accented peer social preferences. Because a high percentage of the immigrant population in Hawai‘i is Chinese (American Immigration Council, 2015), I focused on Chinese-accented English in the present study.

Method

Participants

Fifty 4- to 5-year-old (*M* = 5.11 years; *SD* = .71) native-English speaking children (24 females; 32 Multiracial, 10 Asian, 5 White, 2 Polynesian, and 1 Native American; 38 Monolingual, 11 Bilingual, 1 Trilingual and more) were recruited from the local community on the island of O‘ahu by flyers and information distributed to local children’s facilities (e.g., Honolulu Theater for Youth, local library children’s story times, etc.).

Materials

Photos. Because I am primarily interested in children’s attitudes toward accent, the race of the people in these images were held constant (i.e., all East Asian, specifically Chinese). Child photos (35 boys, 35 girls) were taken from online databases and photoshopped with matching green shirts, and were pretested for attractiveness, ethnicity (i.e., Chinese), and age. Adult photos (12 males, 12 females) of East Asian individuals were taken from the Chicago Face Database (Ma, Correll, & Wittenbrink, 2015) and also were pretested for looking Chinese.

Voices. Native accented and Chinese accented adults and children were recorded saying eight sentences in English (see Appendix). Each voice recording was pretested for clarity of sound and whether the voice sounded native- or foreign-accented. Each critical trial that required participants to compare a foreign-accented voice with a native-accented voice was sentence matched, such that the content of the sentence did not differ when children were comparing a

foreign- and native-accented speaker. For the purposes of this study, native accent refers to American-accented English, while foreign accent refers to Chinese-accented English.

Procedure

All participants completed four tasks in the same order (stability task, natural kinds task, friendship choice, and social status task) in a university laboratory setting. Participants only saw gender matched stimuli (e.g., female participants only saw girl stimuli). The presentations of photos were randomly arranged to make four conditions. The purpose of the four conditions was to test whether stimuli presentation order had an effect on answers. In addition, throughout all tasks, an image was always paired with either a foreign- or native-accented voice, such that the voice was played after the script prompted (e.g., a child who *sounds like this*).

Assessing essentialist beliefs. I assessed essentialist beliefs in two tasks. The first task, the *stability task,* required participants to judge the stability of the target stimuli's accent across two questions. The experimenter first introduced a child image and his/her corresponding voice by saying, "Here is a kid. He/she sounds like this." The experimenter then introduced two adults (side-by-side images) directly below the child image, one paired with a foreign-accented voice and one paired with a native-accented voice, saying "if this child grows up in the U.S., will he/she sound more like this adult (pointing to the left adult image) or this adult (pointing to the right adult image)?" No physical labels of foreign or native accent were given to any of the stimuli. In order to assess whether participants take environment into account, the experimenter proceeded to ask "if this kid who sounds like this (*foreign-accented clip*), moved to a place where all the kids around him/her sound like this (*native-accented clip*), will he/she still sound like this (*foreign-accented clip*), or will he/she sound more like the kids in the new place (*native-accented clip*)? An additional question about nationality of the target child was asked at the end

of each block, however, because this question was not related to stability beliefs, it was not incorporated into the analyses. Participants were asked these three questions for four foreign-accented targets and two native-accented targets. Because foreign-accented targets were of interest for this particular study, native-accented target analyses were not included. In addition, children were asked to explain their choice after every question. Because the majority of children said, "I don't know" or provided answers that were not related to the original question, I did not perform a qualitative analysis of these responses. For each question, participants received a 1 for an essentialist answer (e.g., target child will remain the same) and 0 for a non-essentialist answer (e.g., target child can change with time or due to differences in environment).

The second essentialism task measured beliefs of *natural kinds* using a visitor task adapted from Rhodes and Gelman (2009). The participant was first introduced to a puppet from "somewhere far away where they do lots of things differently than we do." During the critical trials, the experimenter then explained that the visitor has paired people it thinks are the "same kind of person" and participants were asked whether these judgments are "maybe right" or "wrong". Each critical trial simultaneously displayed two child images, and played the voice of one foreign-accented and one native-accented child. If the participant has rigid accent boundaries, in line with an essentialist view, they would reject that pairing. If the subject has more flexible accent boundaries, in line with a less essentialist view, they would more likely to accept that pairing. Like the previous task, an essentialist answer was coded as 1 and a non-essentialist answer was coded as 0.

Assessing social preferences. To assess social preferences, we had participants complete a *friendship choice task,* adapted from Mandalaywala and Rhodes (2016). Participants were shown one foreign-accented and one native-accented child at the same time, and asked four

questions about whom they would rather engage in some social activity with (e.g., “Whom would you like to be friends with?” and “Who would you like to play with at school?”). A new stimulus pair was shown for each question. Participants were allowed to choose both or to choose neither. A score of 1 was given if the participant chose the native-accented child and a 0 if the participant chose the foreign-accented child.

Assessing perceptions of social status. The final task assessed *perceptions of social status* using a task called the rope game adapted from Mandalaywala, Tai, and Rhodes (*under review*). The experimenter introduced the rope game by first asking participants what it means to be in charge. Participants were then directed to a vertical piece of rope on the wooden board, where the experimenter explained that “kids at the top of the rope are always in charge” (while pointing at the top peg), and “kids at the bottom are never in charge” (while pointing at the bottom peg). The experimenter then explained, “Kids don't just have to go at the top or the bottom. They can go on any of these places on the rope” (while pointing at each of the pegs in the middle, in ascending order). In order to determine whether the subjects understood what was just described to them, the experimenter asked each participant three comprehension questions, one evaluating understanding for the top (e.g., always in charge), one for the bottom (e.g., never in charge), and another for anywhere in the middle (e.g., sometimes in charge).

After assessing comprehension, the experimenter played two audio clips and presented two child images, and said, “this kid sounds like this, and this kid sounds like this.” The experimenter then asked the participant to place each stimulus on the rope, one at a time. The first of each pair of stimuli were left on the board; therefore, stimuli were only removed after the child had placed both images on the board. Two adult pairs and another child pair were shown so all participants went through four critical trials (two adult trials, two child trials). Presentation

order of the voices were counterbalanced, so that children were asked to place the native-accented individual first on one trial and the foreign-accented individual first on the next trial. Each peg received a score from 1 – 6 in ascending order, so that a target stimulus placed on the bottom peg received a score of 1 and a target stimulus placed on the top peg received a score of 6.

Results

Order Effects

No significant differences were found between conditions (i.e., different combinations of stimuli presentation order), suggesting that presentation order did not have an effect on any of the results. Thus, data were collapsed across the different orders for subsequent analyses.

Scoring

Preceding analysis, average scores were created for the two essentialist tasks and the one social preference task, such that trials for each task were added and divided by number of trials. Thus, for the stability task, I summed the scores from the two questions of all four trials and divided by 8. As such, participants who got a score 8/8 gave all essentialist answers, while participants who scored 0/8 gave all non-essentialist answers. For the natural kinds task, scores were added across the 4 trials and divided by 4, with higher scores indicating higher essentialist beliefs. Similar to the natural kinds task, scores from the social preference task were added and divided by 4, with higher scores indicating greater social preferences for native-accented speakers.

For the social status task, difference scores were created by subtracting the foreign-accented speaker score from the native-accented speaker score, with positive scores indicating higher placement of native-accented speaker, negative scores indicating higher placement of

foreign-accented speaker, and 0 indicating rating the speakers equally. Once difference scores were created, they were averaged across the two child and two adult trials separately, resulting in one child status score and one adult status score.

Analyses Overview

To examine differences with age in each of the tasks, I first examined 4- and 5-year-old responses across the four tasks (stability, natural kinds, social preference, and social status tasks) separately using one-sample t-tests, comparing to chance levels (0.5 for stability, natural kinds, and social preference tasks, and 0 for the social status task). 4- (n = 21) and 5-year-olds (n = 29) were looked at separately to assess developmental changes with respect to age as seen in previous studies. I then examined predictors of social preferences using linear regression and between-subjects ANCOVA, with age as a covariate.

Examining Developmental Differences Across Each Task

Essentialism. Scores on the stability task could range from 0-1 and in my sample, ranged from 0 to 0.88. A one-sample t-test assessing whether children view accents as a stable characteristic that doesn't change across time and environment revealed that 4- (M = .31, SD = .15) and 5- (M = .39, SD = .23) year-old children viewed accent as a changeable characteristic: *4-year-olds:* $t(20) = -5.595$, $p < .001$, $d = -1.221$ and *5-year-olds:* $t(28) = -2.405$, $p = .023$, $d = -.447$ (see Figure 1).

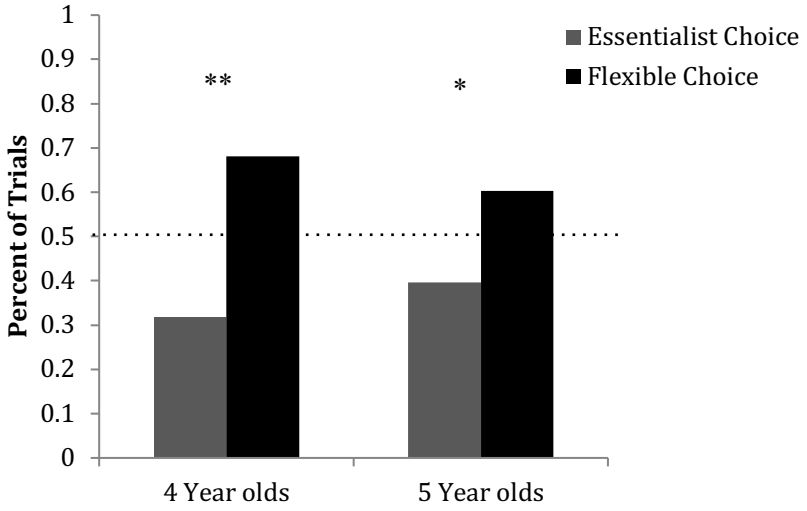

Figure 1. Percent of trials in which 4- and 5-year-old children chose either essentialist or flexible choice during stability task. For percentage of trials, 1 represents all trials and 0 represents no trials. Effects that are significantly different than chance are indicated. (* $p < .05$, ** $p < .001$).

Scores on the natural kinds task could range from 0-1 and in my sample ranged from 0-1. As shown in Figure 2, a one-sample t-test assessing whether children view accent as a natural kind indicated that 4- ($M = .43$, $SD = .37$) and 5-year-olds ($M = .60$, $SD = .37$) were at chance levels identifying accents as natural kinds; however, 5-year-olds showed a trend toward viewing accents as natural kinds, *4-year-olds:* $t(20) = -.880$, $p = .389$, $d = .192$, *5-year-olds:* $t(28) = 1.509$, $p = .142$, $d = .280$.

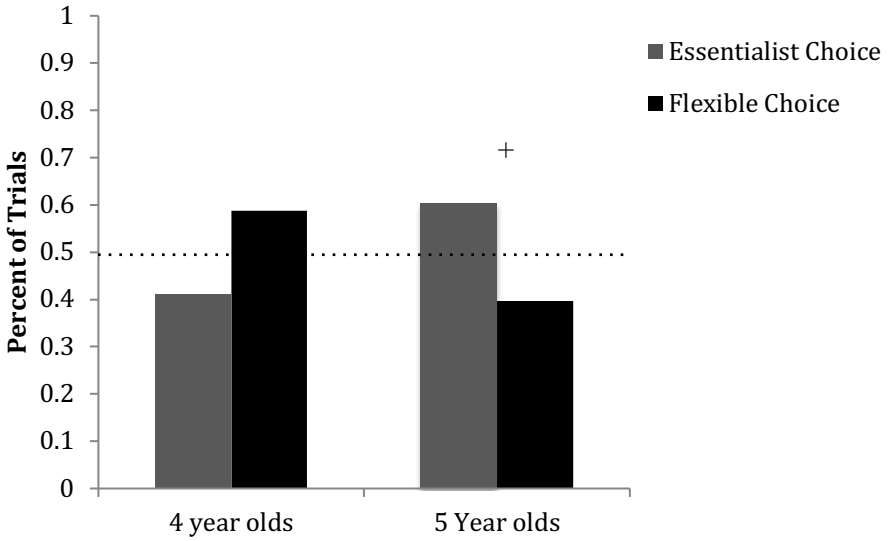

Figure 2. Percent of trials in which 4- and 5-year-old children chose either essentialist or flexible choice during the natural kinds beliefs task. 1 represents all trials and 0 represents no trials. Trending significant scores compared to chance are indicated ($^{+}p < .15$).

Social preferences. Scores on the social preferences task could range from 0-1 and in my sample ranged from 0-1. A one-sample t-test assessing children's preferences for native- or foreign-accented speakers revealed that while 4-year-olds were at chance at selecting either native- or foreign-accented individuals as social partners ($M = .56$, $SD = .39$), $t(20) = 0.71$, $p = .489$, $d = .155$, 5- year-olds showed a significant preference for native-accented speakers ($M = .76$, $SD = .25$), $t(28) = 6.0$, $p < .001$, $d = 1.11$ (see Figure 3).

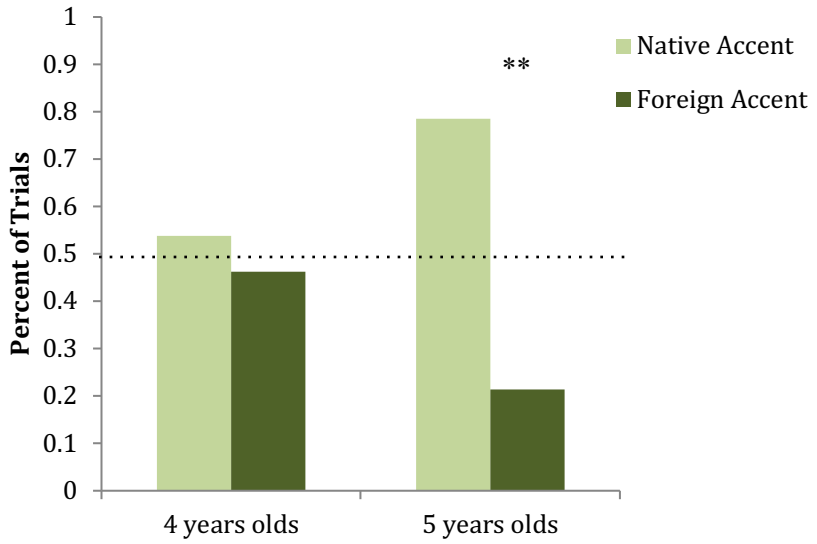

Figure 3. Percent of trials in which 4 - and 5-year-old children chose the foreign- or native-accented individual as a social partner. 1 represents all trials and 0 represents no trials. Effects that are significantly different than chance are indicated (** $p < .001$).

Perceptions of social status. To assess whether participants placed native- or foreign-accented targets higher in status, one-sample t-tests with the differences scores obtained from the rope task for children and adult targets were conducted separately. Scores could range from -5 to 5, and in my sample, child target scores ranged from -4.5 to 5, and adult target scores ranged from -5 to 5. Analyses revealed that while 4-year-olds did not show a difference in status placement of native- and foreign-accented individuals for child ($M = .31$, $SD = 2.19$), $t(20) = .647$, $p = .525$, $d = .141$, and adult ($M = .09$, $SD = 2.02$), $t(20) = .216$, $p = .831$, $d = .047$, targets, 5-year-olds placed native-accented children above foreign-accented children at marginal significance ($M = .60$, $SD = 1.68$), $t(28) = 1.932$, $p = .063$, $d = .359$. In addition, 5-year-olds placement of native- and foreign-accented adults showed a trend toward placing native-accented adults higher in status ($M = .65$, $SD = 2.23$), $t(28) = 1.578$, $p = .126$, $d = .293$ (see Figure 4).

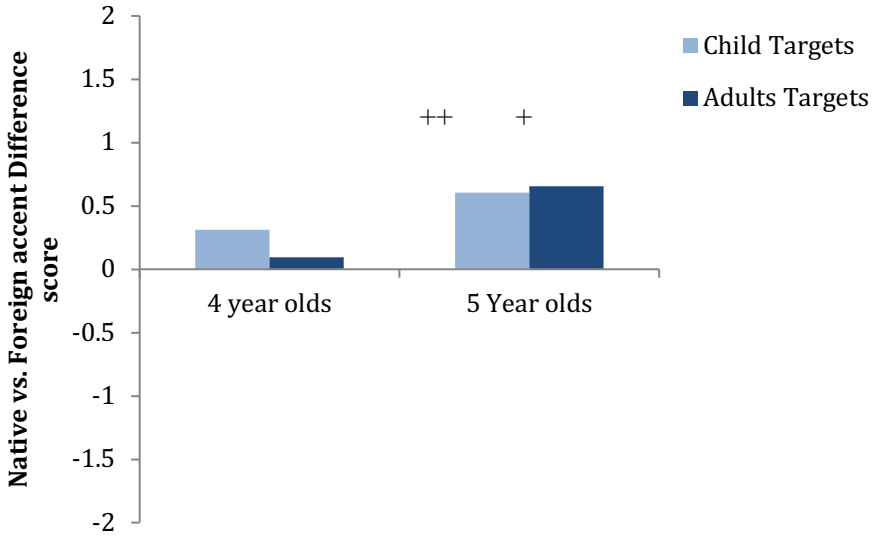

Figure 4. 4- and 5-year-olds' difference scores of status placement for native- and foreign-accented targets. Positive scores represent higher placement of native-accented speakers, negative scores represent higher placement of foreign-accented speakers, and 0 represents equal placement. Marginal and trending significant scores compared to chance are indicated ($^{++}p < .1$, $^{+}p < .15$).

Predictors of Social Preferences

Essentialism. To assess whether essentialist beliefs related to social preferences, I ran a linear regression with both essentialist task scores and age as independent variables and social preference score as the dependent variable. Essentialist beliefs across both tasks did not independently predict social preferences (stability task: $\beta = -.032$, $p = .712$; natural kinds task: $\beta = -.003$, $p = .569$). Age was marginally related to social preferences, $\beta = .129$, $p = .087$. Because of these results, I did not run a mediation analysis exploring whether status beliefs mediated the relationship between essentialism and social preferences.

Status. To examine whether specific responses on the social status task related to social preferences, the difference status scores was first categorized such that positive scores (native

accent preference) were coded 1, negative scores (foreign accent preference) were coded -1, and the remaining received a 0. For ease of explanation, I split participants into status belief groups: those who scored 1 were the native > foreign group (child targets: n = 20, adult targets: n = 26), those who scored 0 were the equal status group (child targets: n = 14, adult targets: n = 10), and those who scored a -1 were the foreign > native group (child targets: n = 15, adult targets: n = 13). I then ran a one-way between-subjects ANCOVA with child and adult target status groups separately, with the status belief group as the between-subjects variable, age as a covariate, and social preference scores as the dependent variable. For child targets, status belief groups did not significantly differ from one another, $F(2, 49) = 1.740$, $p = .187$, $\eta^2 = .067$, when adjusted for age (see Figure 5). Age was trending toward significance, $F(1, 49) = 2.65$, $p = .110$, $\eta^2 = .051$.

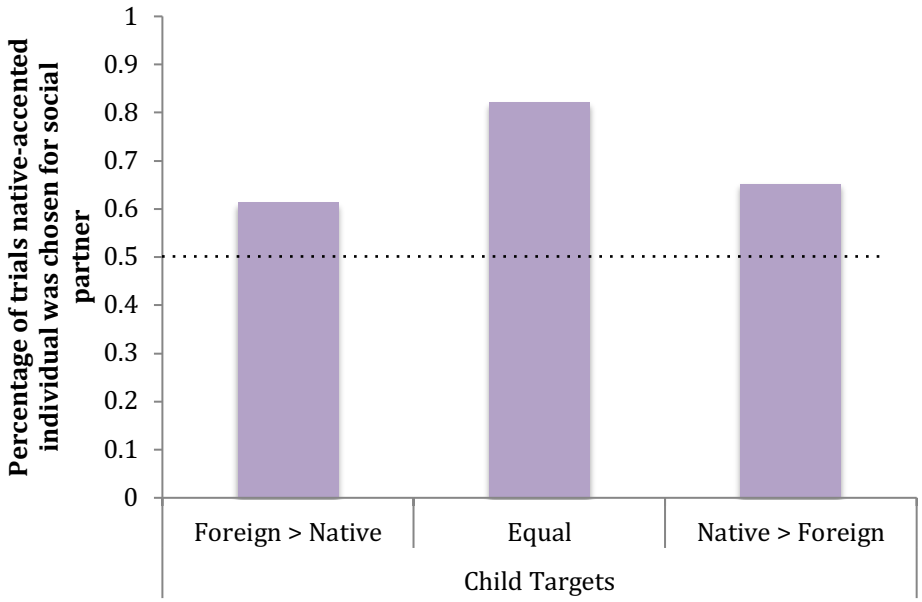

Figure 5. Percent of trials in which participants chose native-accented individual as a social partner based on social status belief group for child targets. For percentage of trials, 1 represents all trials and 0 represents no trials.

For adult targets, however, status belief groups differed in social preferences, $F(2, 49) = 5.870$, $p = .005$, $\eta^2 = .192$, when adjusted for age. Post hoc comparisons using the LSD test indicated that participants who placed the native-accented adult higher in status ($M = .827$, $SD = .333$) were significantly different from those who placed foreign- and native-accented equally ($M = .500$, $SD = .373$) and those who placed foreign-accented adult higher in status ($M = .557$, $SD = .370$). Those who placed the foreign-accented adult higher in status and those who placed both targets equally did not significantly differ from one another. Thus, participants who placed native-accented adults higher in status also exhibited greatest social preferences for native-accented peers (see Figure 6). A main effect of age was marginally significant, $F(1, 49) = 3.754$, $p = .059$, $\eta^2 = .06$.

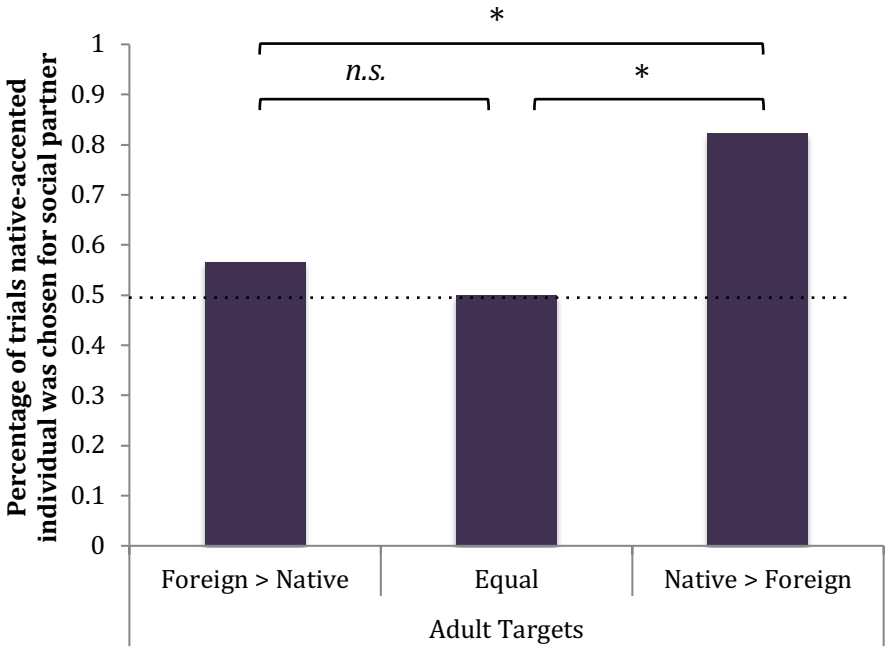

Figure 6. Percent of trials in which participants chose either chose native-accented individual as a social partner based on social status belief group for adult targets. For percentage of trials, 1 represents all trials and 0 represents no trials. Significant effects are indicated. (* $p < .05$)

Discussion

The current study aimed to examine potential cognitive mechanisms for children's perceptions and biases of foreign-accented individuals. Specifically, I examined at what age children view accents as a stable and as a naturally occurring category, whether children prefer native- or foreign-accented individuals as social partners, and whether children view native- or foreign-accented individuals higher in social status. Consistent with my initial hypothesis, results indicated that young children (both 4- and 5-year-olds) view accents as a changeable characteristic. On the other hand, when it came to seeing accent as a natural kind, although not significant, 5-year-old children showed a trend toward viewing accents as a naturally occurring characteristic. In addition, although 4-year-olds were at chance levels of choosing either a native- or a foreign-accented individual as a social partner, 5-year-olds significantly chose the native-accented individual over the foreign-accented individual as a social partner. Finally, although essentialism scores on either task (stability or natural kinds) did not relate to social preferences, children's ranking of adult targets' social status related to their social preferences: children who placed native-accented adults higher in status than foreign-accented adults were also more likely to choose the native-accented speaker as a social partner.

The current study provides insight on how children may essentialize social categories differently dependent on the component being tested. The present study provides evidence that children as young as 4 years of age believe accents to be changeable across time and environment. This may be due to the fact that children have more experiences with adults and/or children modifying their pronunciation of certain words or sentences. Specifically, parents or pre-school teachers may alter their voices for specific characters when reading aloud to children. Children may also be in the same class as foreign-accented speakers and may have witnessed the

relative speed in which young children change their foreign accents. In addition, media may contribute to children's understanding of accents as flexible, with actors imitating other foreign accents. Thus, the manipulation of pitch and pronunciation of Standard American English that children witness at a young age may contribute to their overall understanding of accents as flexible and moldable.

Surprisingly, 5-year-old children were only trending toward viewing accents as a natural kind. Accents, with this regard, may be similar to race, in which essentialist beliefs of natural kinds may develop later than I predicted. As the current sample only contains 4- and 5-year-olds, I am unable to access the development of these beliefs across a large age range. Due to the age limitations of this study, future research should examine at what age children start to believe accents as naturally occurring.

This study also contributes to our understanding of *when* children develop social preferences for foreign-accented individuals. As seen in the results, while 5-year-olds showed significant social preferences for native-accented individuals, 4-year-olds were at chance at choosing either foreign- or native-accented individuals as a social partner. This corroborates not only existing literature that indicates children at 5 years of age show social preferences for native-accented and native-language speakers (Kinzler et al., 2007; Kinzler et al., 2009, Souza et al., 2013, Dejesus et al., 2017), but also provides novel evidence that children at 4 years of age seem to not show this pattern with regard to accent. This may be explained by the longer exposure to formal education and the standardization of American English that 5-year-old compared to 4-year-old children have experienced. Education not only teaches children how to read and write, but standard American English taught in schools establishes a standard that determines a "right or wrong" way of reading, writing, and speaking. Indeed, varieties of English

(e.g., African American Vernacular English) or other foreign languages are often seen as inappropriate in school settings (Lippi-Green, 2012). In addition, teachers are rarely seen endorsing or valuing variations of English (e.g., local accents and dialects) at school (Santos Mota, 2002). Thus, greater exposure to formal education may play a substantial role in the formation of stronger preferences for native-accented individuals with age; however, the current study did not directly examine this phenomenon. Future studies may look into the relation between amount of schooling and the development of social preferences for native accents.

The current context in which this study was conducted may provide a unique perspective on the development of accent essentialism and preference with children due to its diverse composition. Indeed, the majority of children who participated in this study were multiracial, and Hawai‘i is host to a diverse array of immigrants. Thus, children in Hawai‘i may have diverse linguistic experiences at especially young ages compared to other children in more homogenous contexts. This may explain too why children at 4 years of age, who may not have started schooling yet, do not show social preferences toward native- or foreign-accented speakers. Indeed, since Hawai‘i’s annexation, English has been established as one of Hawai‘i’s official languages. Thus, most schools follow the American education system, where standard American English is taught. Based on these observations, education may strongly influence children’s perceptions and preferences for native-accents, over the array of foreign-accents present in this uniquely diverse context; however, this has not been directly tested yet.

Contrary to our initial hypothesis, essentialist beliefs, both assessed through the stability and natural kind task, did not predict social preferences. Although the beliefs that accents are flexible did not predict preferences for native accents, it may be predictive of negative out-group attitudes, something that was not assessed in the current study. In other words, individuals who

believe accents are easily changeable may perceive individuals who continue to speak with a foreign-accent, despite living in the U.S. for extended period of time, as actively holding onto a stigmatized identity. Thus, future studies should examine whether there is a relation between stability beliefs and negative out-group attitudes.

Because essentialist beliefs did not predict social preferences, my original mediation hypothesis was not confirmed. However, status beliefs were shown to predict social preferences, such that individuals who viewed adult native-accented speakers as higher in status showed greater social preferences for native-accented speakers. This result corroborates previous research that also showed a relation between preferences for high status individuals. In particular, not only do children and adults show a preference to associate with higher status individuals, children prefer to befriend children associated with high status belongings, as opposed to children associated with low status belongings (Shutts, Brey, Dornbusch, Slywotzky, & Olson, 2016). In addition, high status groups show strong in-group biases (Newheiser, Dunham, Merrill, Hoosain, & Olson, 2014). As all participants were native-accented children (i.e., part of the high-status group), the results from this study contribute to the existing literature showing not only children's preferences for high status individuals, but also high status groups showing strong in-group biases.

It should be noted that only children's ratings of adult status predicted social preferences toward native-accented speakers. This may be due to the fact that children at these ages may see more examples of native-accented individuals in positions of authority (e.g., teachers) who are teaching them "proper" pronunciation and grammar. Thus, status distinctions between foreign- and native-accented adults may be more salient for children than status differences between foreign- and native-accented children.

Finally, the current study provides insight that the development of cognitive biases toward accents may be unique compared to that of other social categories like language, gender, and race. While studies show that 5-year old children have essentialist beliefs about race, gender, and language (Rhodes & Mandalaywala, 2017), the current study indicates that children do not have strong essentialist beliefs about accents as stable or natural kinds. In addition, children are not as sensitive to status differences with native- and foreign- accented individuals as they are with race (Olson et al., 2012). Accent, compared to language, gender, and race, may be a more ambiguous cue; thus the perception of accents may be influenced by a host of other external or situational factors. Indeed, previous studies have shown that a person's race can bias an individual's perception of the presence of an accent (Rubin, 2012). Thus, future studies should not only investigate at what age children develop essentialist beliefs about accents relative to essentialist beliefs about other social categories, but also the specific factors about accents that may make essentialist beliefs about accents slower to develop.

Limitations

One limitation of this study is that all voice recordings were made by different people and did not utilize the matched-guise technique (i.e., same speaker recording both native and accented voice) used by most social psychological research about accents (Lambert, 1967; Lambert, Hodgson, Gardner, & Fillenbaum, 1960). Thus, there may be other factors influencing children's evaluation of these foreign-accented/native-accented voices. In order to counteract this, we obtained two recordings for each category of voices and randomly interspersed their presentation throughout the recording.

In addition, the social preference task used in this study more strongly assesses in-group favoritism. In other words, the results from this study only showed that children had a preference

for native-accented individual, not allowing us to conclude whether children simultaneously hold negative attitudes toward the out-group (i.e., foreign-accented individuals). Thus, future studies should include measures that determine whether children not only display preferences for native-accented individuals, but also show dislike for foreign-accented individuals.

Moreover, the only foreign accent used in this study was Chinese-accented American English. As immigrants in the U.S. come from many different countries and continents (e.g., Mexico, Japan, Africa, Eastern Europe, etc.), it is important to incorporate the study of those accents as well. Existing literature with adults suggest that not only are foreign-accented individuals treated differently (Gluszek & Dovidio, 2010), negatively stereotyped speech is more commonly associated with communities of color. Future studies should look into not only children's attitudes toward a variety of different accents, but also whether the development of racial stereotypes coincides with their stereotypes about language.

Children's ability to juggle visual and auditory exposure at the same time may pose another limitation to this study. Children, especially at 4 years, may have difficulty judging the similarity of voices and become easily distracted by visual stimuli. This may explain why I didn't find the results expected in the natural kind essentialist task, as all images were race matched. Future studies should look into ways in which these phenomena may be tested using only audio stimuli to minimize other potential distractors.

Conclusion

The present study examines potential cognitive mechanisms that may contribute to the development of negative attitudes toward foreign-accented individuals. While 4- and 5-year-old children believe that accents are flexible, 5-year-olds show a trend in believing that accents are natural kinds. In addition, although essentialist beliefs did not predict social preferences,

participants who viewed native-accented adults as higher in status also showed greater social preferences for native-accented individuals. As researchers continue to uncover the specific mechanisms behind these biases, we can not only start to better understand how these attitudes are formed, but also create interventions to counteract these negative stereotypes, especially at a young age when these beliefs may be particularly malleable.

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Appendix

8 Sentences recorded from each voice

Penguins are birds even though they don’t fly

Platypuses are mammals even though they don't give live birth.

Snakes are reptiles even though some give live birth.

Raccoons are rodents even though they aren't very tiny.

Sharks are fish even though they don't have obvious scales.

Butterflies are insects even though they have huge wings.

Foxes are canines even though they don't look a lot like dogs.

Orcas are part of the dolphin family even though they are called killer whales